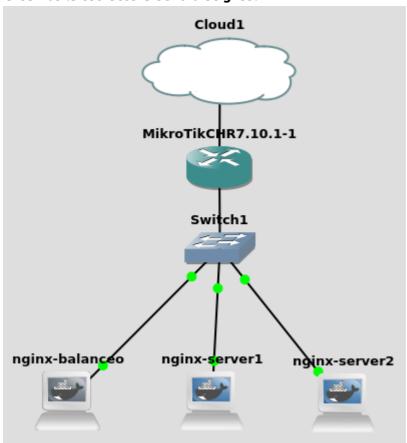
# Reto4

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## Balanceador de carga (Con servidores nginx y un mikrotik)

#### Paso 1

#### Creamos la estructura dentro de gns3:



Hay que tener en cuenta que los servidores tienes las siguientes ip: **Nginx\_balanceador:** 192.168.0.2 **Nginx\_servidor1:** 192.168.0.3 **Nginx\_servidor2:** 192.168.0.4 La red ya esta configurada para que el router de mikrotik haga un forwarding a la red externa y los servidores puedan salir de la red tambien

### Paso 2

En el servidor de balanceo añadiremos la siguiente configuracion en el .conf:

```
upstream backend {
   least_conn;
      server 192.168.0.3;
      server 192.168.0.4;
   }
   server {
      listen 80;
      server_name servidorbalanceador.com;
```

```
location / {
    proxy_redirect off;
    proxy_set_header X-Real-IP $remote_addr;
    proxy_set_header X-Forwarded-For $proxy_add_x_forwarded_for;
    proxy_set_header Host $http_host;
    proxy_pass http://backend;
}
```

La salida sera algo como esto:

```
upstream backendr{/man/ru/man1/vim.1.gz (of link group vi) doesn't exist
update aleast_conn;: warning: skip creation of /usr/share/man/tr/man1/vi.1.gz because of file serverh192.168.0.3; an1/vim.1.gz (of link group vi) doesn't exist
update-aservert192.168.0.4; /usr/bin/vim.basic to provide /usr/bin/view (view) in an upda}e-alternatives: warning: skip creation of /usr/share/man/man1/view.1.gz because of file /usr/share/man/man1/vim.1.gz (of link group view) doesn't exist
updaserver natives: warning: skip creation of /usr/share/man/da/man1/view.1.gz because of fileisten/share80; n/da/man1/vim.1.gz (of link group view) doesn't exist
update-aserver_name:servidorbalanceador.com; of /usr/share/man/de/man1/view.1.gz because of file /usr/share/man/de/man1/vim.1.gz (of link group view) doesn't exist
update-alocationv/s{ warning: skip creation of /usr/share/man/fr/man1/view.1.gz because of file /usr/sproxy_redirectn1/vim.off; z (of link group view) doesn't exist
update-alternatiproxy_set_header'vimX+Forwarded+Forg$proxy_add_x_forwarded_for;
update-alternatiproxy_set_header'vimX+Forwarded+Forg$proxy_add_x_forwarded_for;
update-alternatiproxy_set_header'vimX+Forwarded+Forg$proxy_add_x_forwarded_for;
update-alternatives: warning: skip creation of /usr/share/man/pl/man1/view.1.gz because of file /us
```

Y ejecutaremos **nginx -t** para comprobar si la configuracion es correcta:

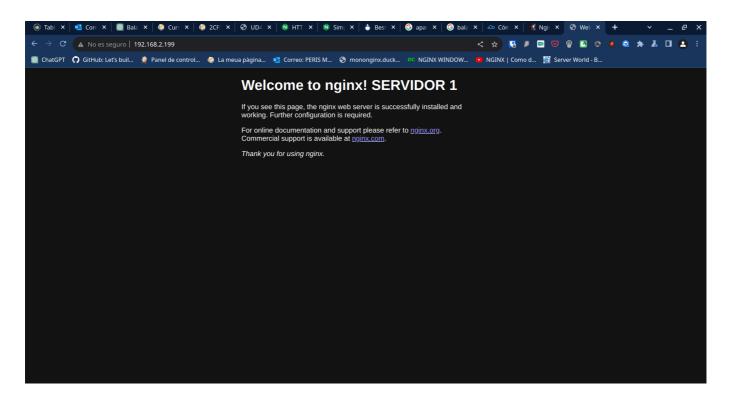
```
root@nginx-balanceo:/etc/nginx/conf.d# nginx -t
nginx:sthe configuration|fileb/etc/nginx/nginx.conf syntax is ok
nginx:gconfiguration#file//etc/nginx/nginx.conf test is successful
root@nginx-balanceo:/etc/nginx/conf.d#c
```

#### Paso 3

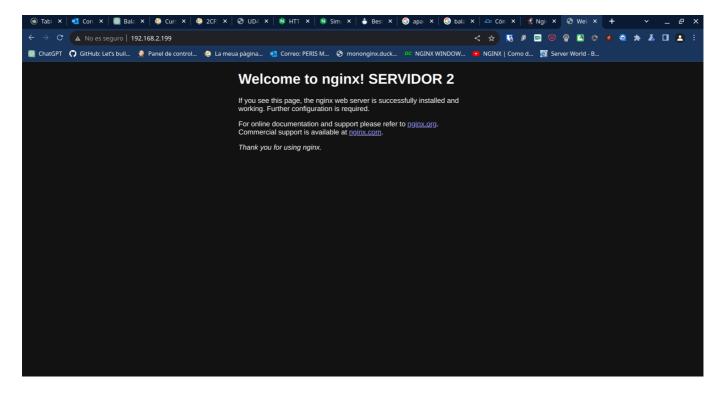
Ahora reiniciaremos el gns3 para que se reinicien todos los servicios:

#### Paso 4

En el navegador comprobaremos que nos envia a un servidor de nginx primeramente:



Ahora recargaremos la pagina varias veces hasta ver que cambia de pagina, de esta manera nos daremos cuenta que los servidores van balanceando la carga:



## Paso 5

Si quisieramos usar otro metodo de balanceo a hash simplemente cambiaremos la segunda linea del archivo:

```
upstream backend {
   ip_hash;
   server 192.168.0.3;
   server 192.168.0.4;
```

```
server {
    listen    80;
    server_name servidorbalanceador.com;
    location / {
        proxy_redirect    off;
        proxy_set_header    X-Real-IP $remote_addr;
        proxy_set_header    X-Forwarded-For $proxy_add_x_forwarded_for;
        proxy_set_header    Host $http_host;
        proxy_pass http://backend;
}
```